Hydra-Blast™ Pro Cleaning Wellbore Tubulars

The Hydra-Blast™ Pro tool is used in conjunction with coiled tubing (CT) for removing scale and other organic buildup from the inside diameters of casing or tubing. The tool’s cleaning head rotates more slowly than many conventional rotational tools for longer dwell time and increased cleaning efficiency, thereby allowing complete cleaning coverage in only one pass. The cleaning speed is determined by the usage of the Hydra-Blast® service computer program.

The vertical travel rate of CT using the Hydra-Blast Pro tool depends on the material being removed, the number of jets in the nozzle head, the flow rate of the cleaning fluid, the pressure drop across the jets, and the ID of the surface being cleaned. Typical vertical travel rates for CT using the Hydra-Blast Pro tool range from 3 to 10 ft/min (0.015 to 0.051 m/s).

The Hydra-Blast Pro rotating tool provides the following features and benefits:

- Service can be safer than using explosive or chemical cuts
- Service is performed without killing the well
- Pre-job software analysis helps improve results and reduce cost
- Uses no mills or abrasives, reducing wear on tubulars
- Can clean diameters much larger than the tool OD

The Halliburton Hydra-Blast® service is a totally planned cleaning process for oil, gas, injection, and geothermal wells, as well as flow lines. Scale buildup can cause a choking effect, increasing the bottomhole pressure required to maintain flow capacity. By combining fluid-jet technology with the proven performance of coiled tubing, the Hydra-Blast service provides an extremely effective solution for many wellbore cleanout problems.

**Equipment Configuration**

Additionally, the slow rotating Hydra-Blast Pro tool can be configured with carbide nozzles in a cutting head to cut pipe when sand is mixed with the pumped fluid. Typically, this fluid is water mixed with a polymer (gelling agent) and 100-mesh sand mixed at concentrations of 0.2-0.5 lb/gal.
Rotating Hydra-Blast Pro tool is designed to handle sand, and by rotating provides efficient 360 degree cut

Typical single-string cut would take 10-15 minutes

Economical fluid package

Can be combined with a hydraulic holddown or anchor to provide faster, more stable cut

Service can be designed to cut through multiple strings

Hydra-Jet™ cutting tools can eliminate the need for explosives or chemical cutting fluid

**Hydra-Blast Pro Tool Design**

- Two sizes are available: 1.75-in. and 2.88-in. (44 mm and 73 mm) OD
- 350°F (177°C) maximum operating temperature
- Tool is a mud motor in conjunction with a gear-reduction section to provide high torque and slow rotation: -10 to 20 rpm
- Tool is designed to operate with nitrified fluids
- Tool is designed to have abrasives for both cleaning and cutting in the fluid

Reference

IADC/SPE 62741 – The Development of a Coiled-Tubing Deployed Slow-Rotating Jet Cleaning Tool that Enhances Cleaning and Allows Jet Cutting of Tubulars

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